WVHTC FOUNDATION SM

Unique Qualifications and Capabilities

- Integration of face recognition algorithms into complete recognition systems
- Testing of face recognition performance with uncooperative subjects under real-world conditions at 13 military and DHS exercises and demonstrations
- Development and testing of face recognition systems for sub-optimal lighting and pose
- Experience collaborating with large teams composed of industry, university, and government partners
- Experienced team with 4 PhDs and several engineers with 10+ years of experience

Current Project: Target Recognition with Ultra-light, Man-Portable Systems (TRUMPS)

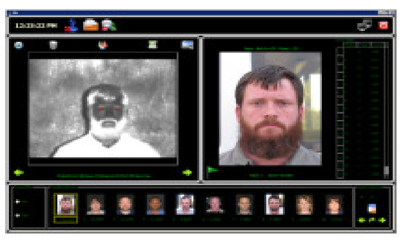
Purpose: Develop software and small compact components to provide automated face recognition for covert and large stand-off missions



- Control external camera from tablet, and do face rec
- Android phone face recognition application
- 100m face recognition using digital binoculars
- Rugged for hand-held operation

Current Project: Tactical Imager for Night/Day Extended Range Surveillance (TINDERS)

Purpose: Develop system for covert face rec at > 400m, from bright sunlight to total darkness




- Uses an active short wave infrared (SWIR) imager

Other related current and past projects

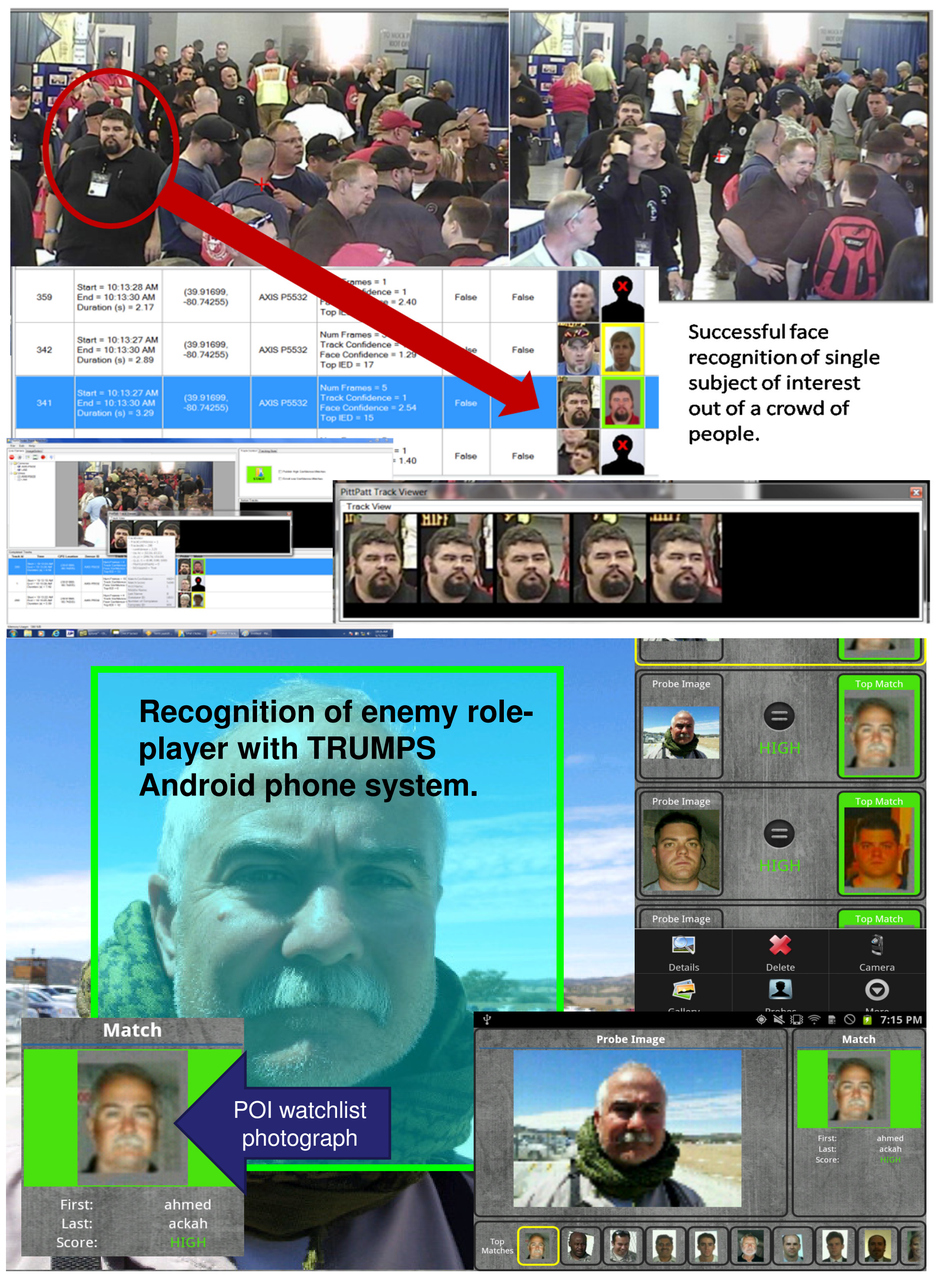
- **Tactical Analysis of Video Imagery** – Wide area face recognition with 8 camera system mounted on a trailer
- **Fixed location surveillance** – Two camera face recognition with forensic capabilities
- **Ear automated recognition system** -- Development of new ear recognition algorithms
- **Wide-area scene analysis** – Biometrics and soft-biometrics –aided tracking across a multi-camera system

Possible Collaborations

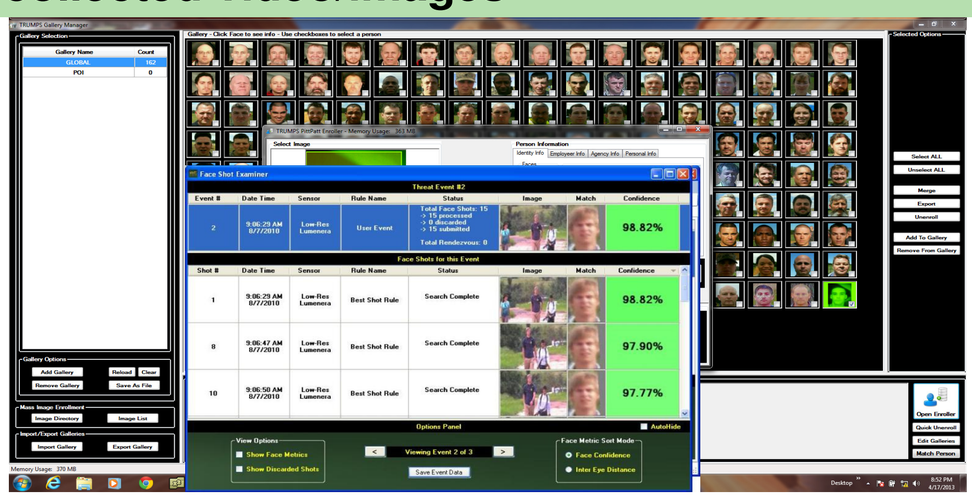
- Would like to collaborate with groups with novel algorithms that improve face recognition under different illuminations, facial expressions, and partial occlusions (hat, sunglasses, etc.).
- Could serve as a mini-integrator for a section of a larger team (preferred) or for a small team to create a software package that combines algorithms from multiple teams.
- Could also contribute a real-world testing and demonstration component to a larger team.

Research Areas of Interest

Real-World Testing and Demonstration

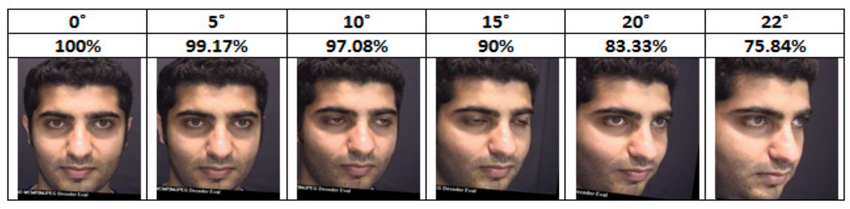


Software toolkit development for face recognition analysis of live or previously collected video/images



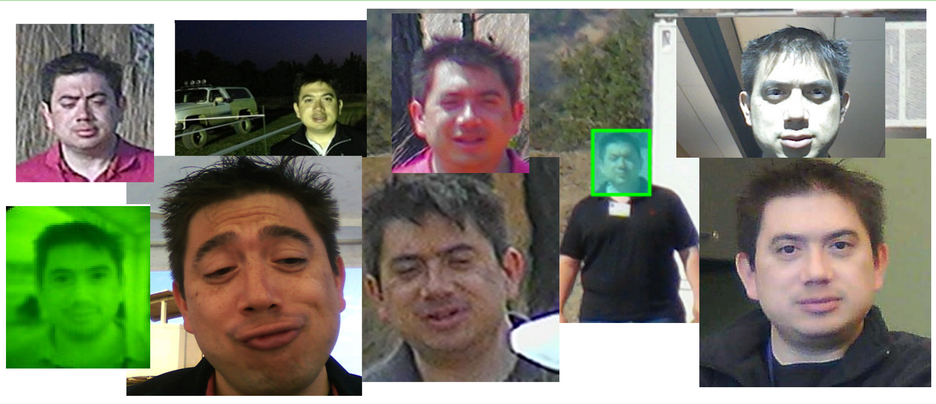
Facial recognition of images in varying pose

Combine ear recognition with side profile recognition for improved recognition performance on non-frontal angles.



Current recognition performance

Fusion of face recognition results from varying quality of images/video



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